

The photo shows the model KP-212G.

**ORDER NO.**  
**CRT-326-0**

## COMPONENT CAR STEREO CASSETTE DECK

**KP-313G**  
**KP-212G**

**E**

**E**

**NOTE:**

**For cassette mechanism, refer to the following Service Manuals (Cassette mechanism unit).**

KP-313G/E → CX-146/F (CRT-324)

KP-212G/E→CX-147/B (CRT-325)

## SPECIFICATIONS

## General

Power source	DC 14.4V (10.8~15.6V allowable)
Grounding system	Negative type
Dimensions	150(W)×50(H)×134(D)mm
Weight	1.2kg
Tone controls (bass)	±10 dB (100Hz)
(treble)	±10 dB (10kHz)
Loudness contour	+ 12 dB (100Hz), + 4 dB (10kHz)
	(volume: -30 dB)
Maximum output level	200mV
Output impedance	1kΩ

## Tape player

Tape ..... Compact cassette tape (C-30~C-90)  
Tape speed ..... 4.76cm/sec.  
                                (+0.19cm/sec. -0.05cm/sec.)

Fast forward/rewind time . . . . . Approx. 100 sec. for C-60  
Wow & flutter . . . . . 0.09% (WRMS)  
Frequency response . . . . . Metal: 30~18,000Hz ( $\pm 3$  dB)  
                                        Normal: 30~15,000Hz ( $\pm 3$  dB)  
Stereo separation . . . . . 45 dB  
Signal-to-noise ratio . . . . . 55 dB (IEC-A network)

**Note:**

Specifications and the design are subject to possible modification without notice due to improvements.

**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan  
**PIONEER ELECTRONICS [USA] INC.** 1925 E. Dominguez St., Long Beach, California 90810 U.S.A.  
**PIONEER ELECTRONIC [EUROPE] N.V.** Keetberglaan 1, 2740 Beveren, Belgium  
**PIONEER ELECTRONICS AUSTRALIA PTY. LTD.** 178-184 Boundary Road, Braeside, Victoria 3195, Australia

EK© NOV. 1982 Printed in Japan

# 1. PARTS LOCATION

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.

★★: GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

## • KP-313G

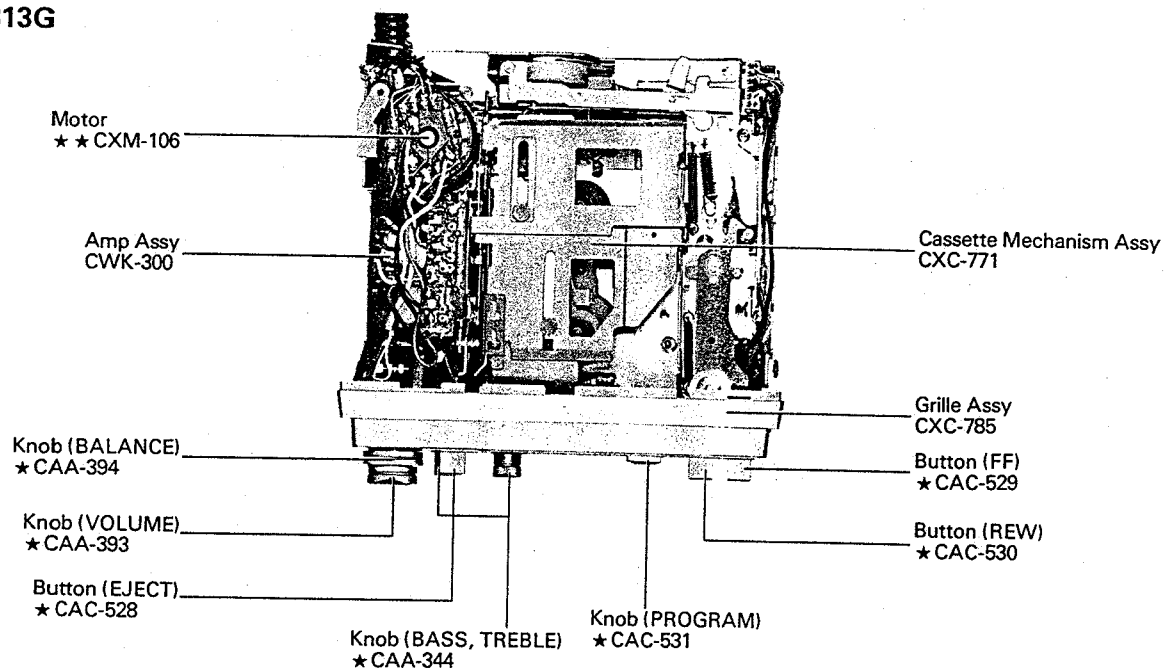


Fig. 1

## • KP-212G

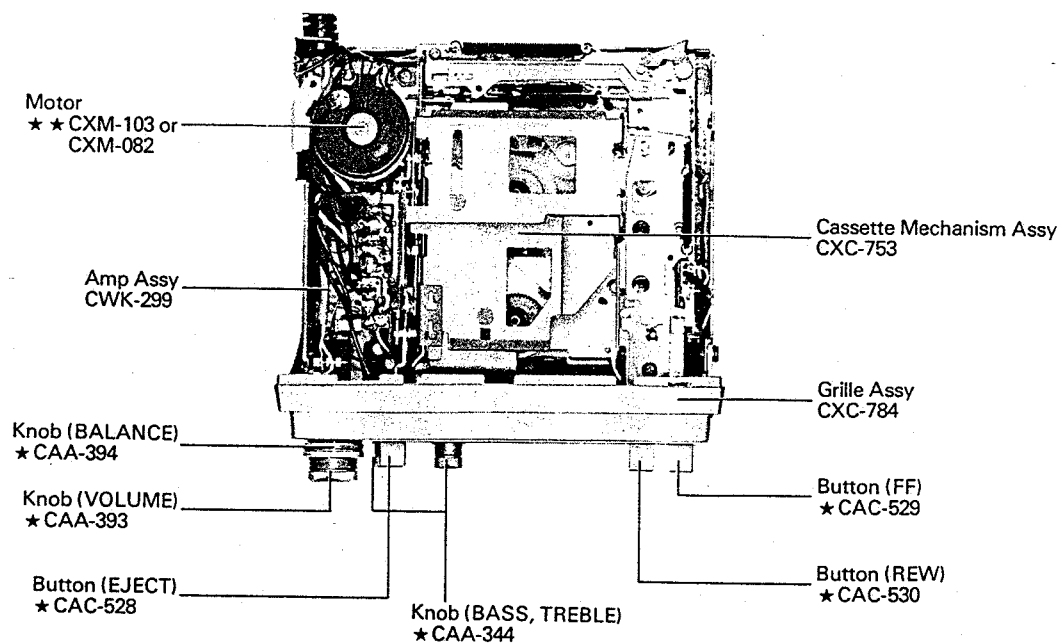


Fig. 2

# 3. SCHEMATIC CIRCUIT DIAGRAM (KP-313G)

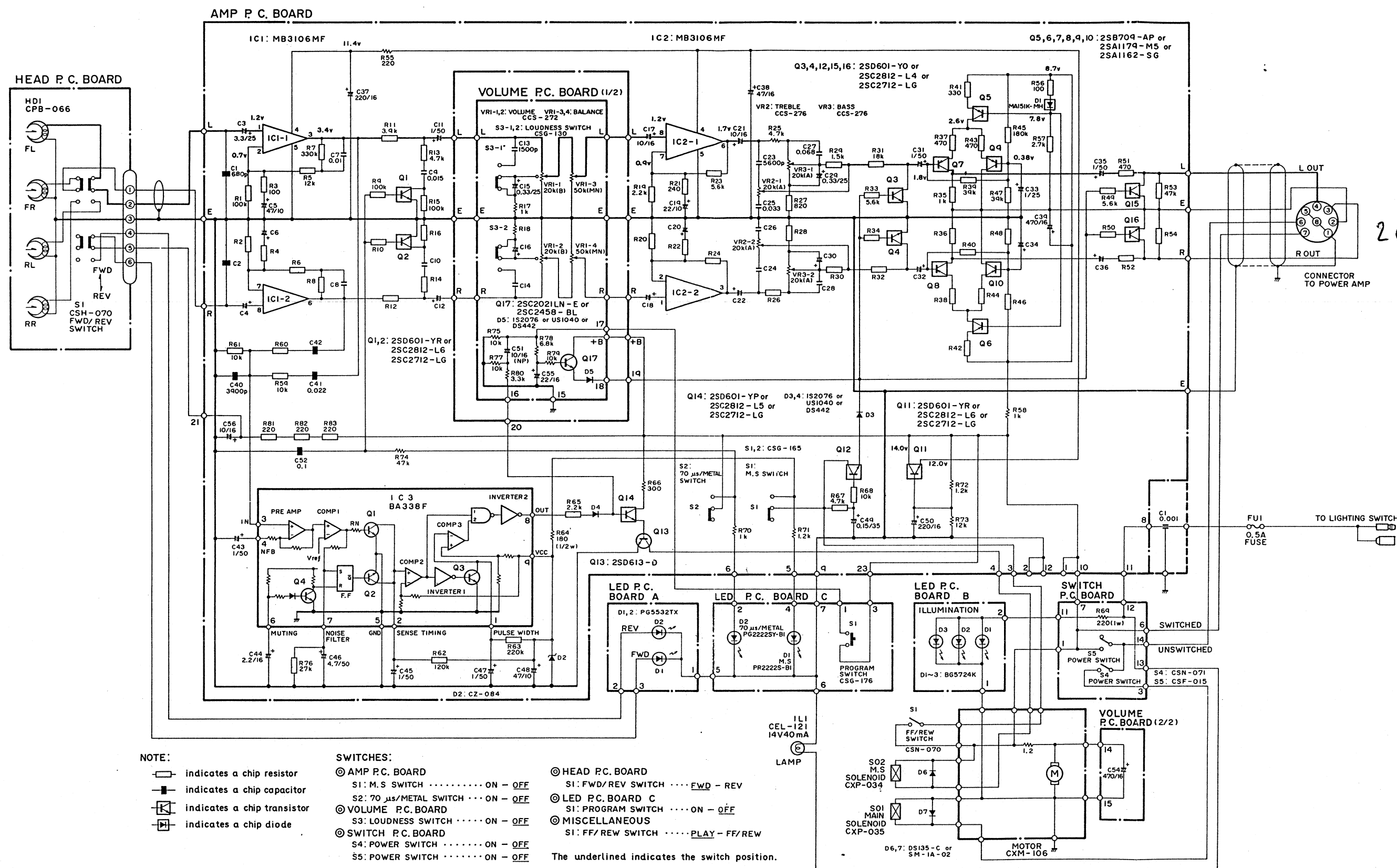


Fig. 10



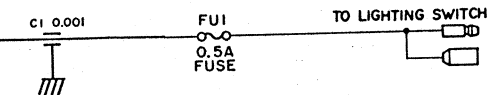
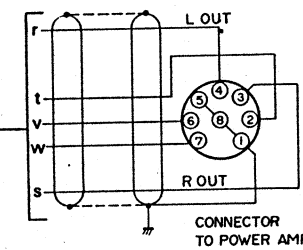
# 4. CONNECTION DIAGRAM (KP-313G)

## AMP P.C. BOARD

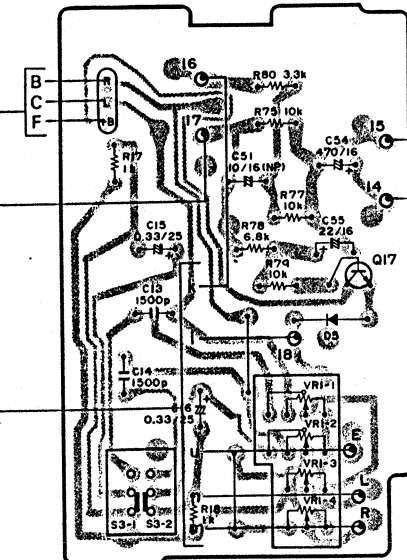
IC,Q IC3 Q12 IC1 Q13 Q1 Q14 Q15 Q16 Q10 Q4 Q8 Q6

Q14: 2SD601-YF or 2SC2812-L5 or 2SC2712-LG  
Q3,4,12,15,16: 2SD601-YO or 2SC2812-L4 or 2SC2712-LG  
Q1: MA151K-MH  
Q5~10: 2SB709-AP or 2SA1174-M5 or 2SA1162-SG

	E	C	B
Q5		2.6V	7.8V
Q6		2.6V	7.8V
Q11	12.0V	14.0V	



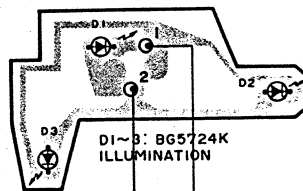
## VOLUME P.C. BOARD



Q17: 2SC2021LN-E or 2SC2458-BL  
Q5: 1S2076 or US1040 or DS442

S3-1,2 LOUDNESS SWITCH  
VR1-1,2 20k(B) VOLUME  
VR1-3,4 50k(MN) BALANCE

## LED P.C. BOARD B



## SWITCH P.C. BOARD

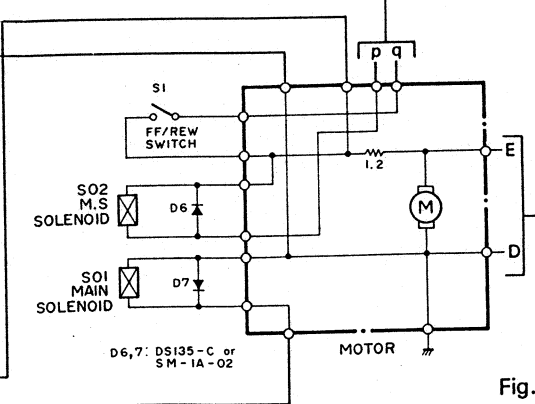
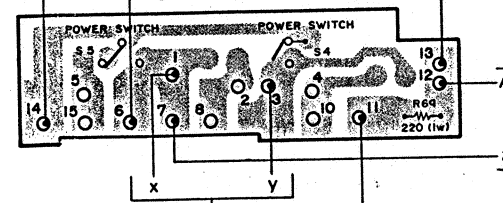
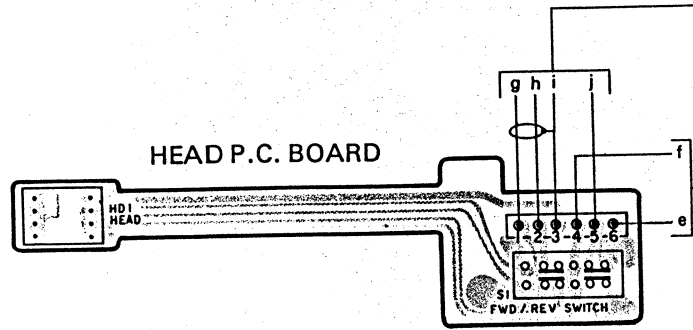


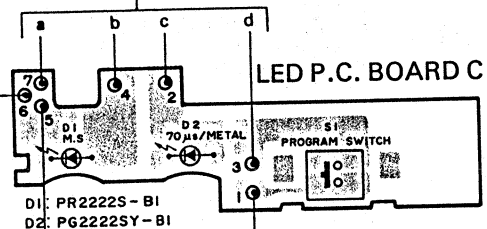
Fig. 11

## HEAD P.C. BOARD

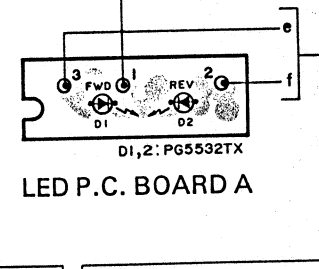


	1	2	3	4	5	6	7	8
IC1	1.2V	0.7V	3.4V	11.4V	0V	3.4V	0.7V	1.2V
IC2	1.2V	0.9V	1.7V	11.4V	0V	1.7V	0.9V	1.2V

## LED P.C. BOARD C

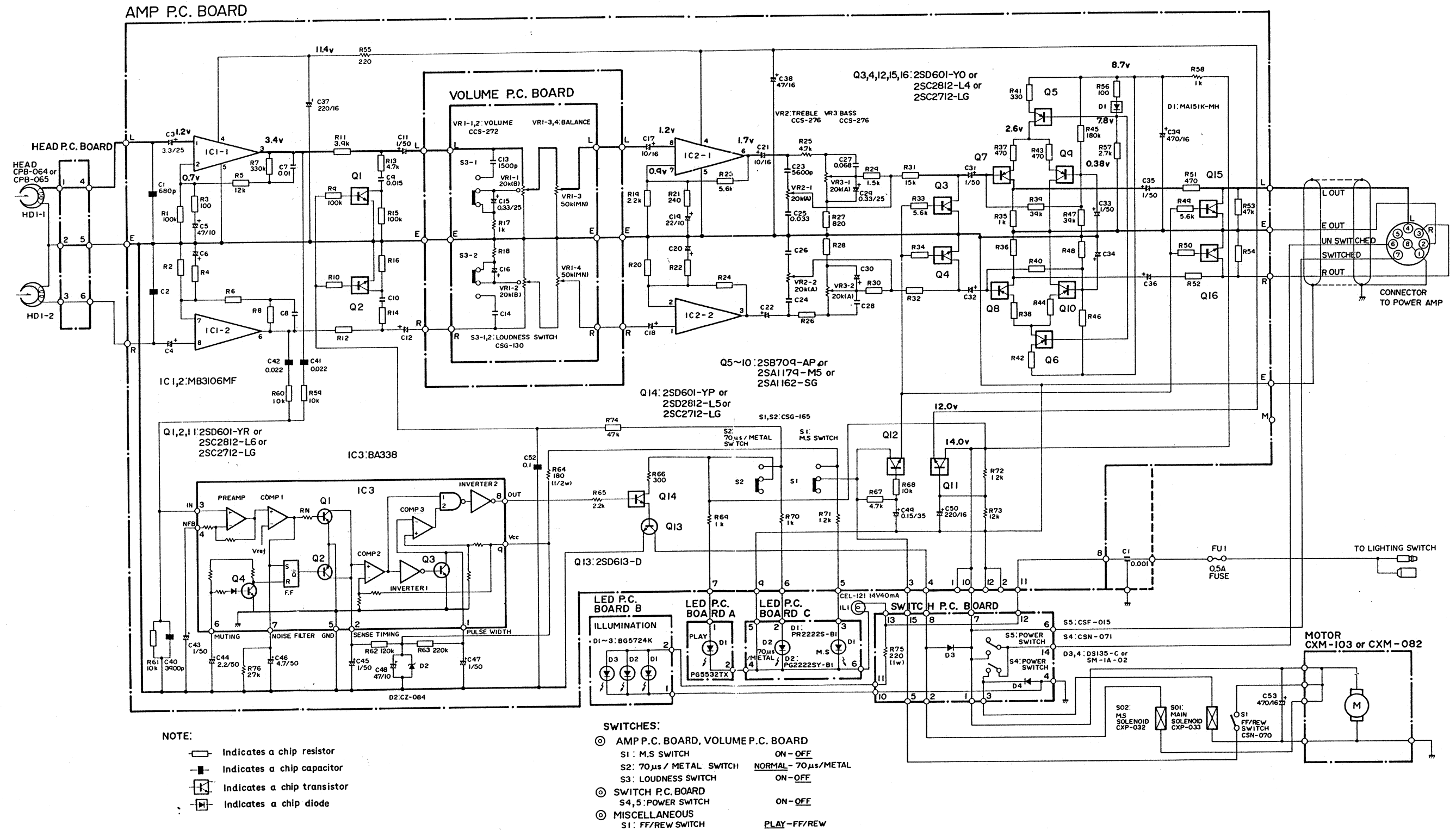


## LED P.C. BOARD A



1L1  
14V40mA  
LAMP

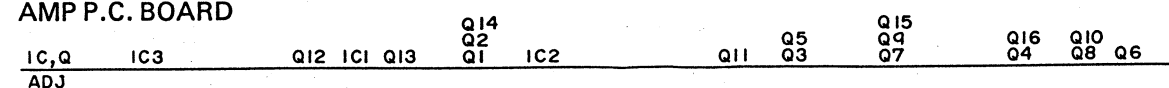
# 5. SCHEMATIC CIRCUIT DIAGRAM (KP-212G)



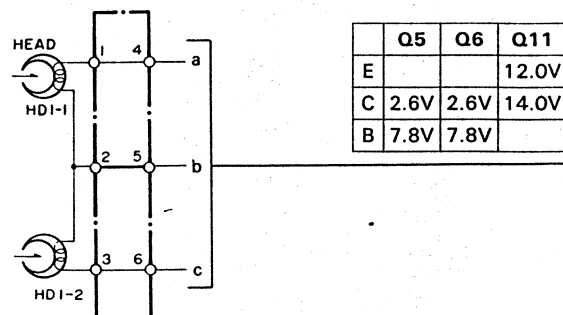


## 6. CONNECTION DIAGRAM (KP-212G)

## AMP P.C. BOARD

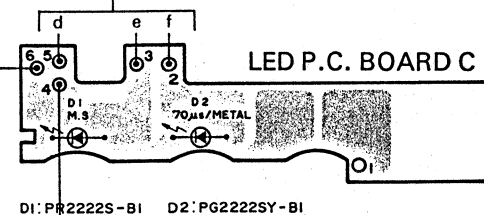


HEAD P.C. BOARD

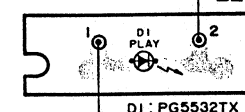


	Q5	Q6	Q11
E			12.0V
C	2.6V	2.6V	14.0V
B	7.8V	7.8V	

LED P.C. BOARD C

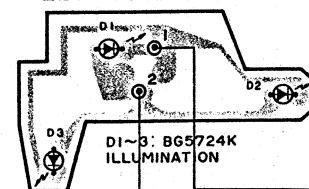


## LED P.C. BOARD A

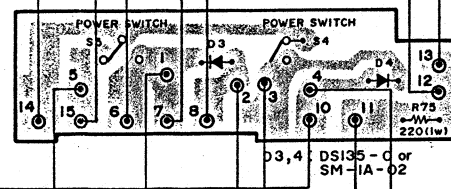


	IC1	IC2
1	1.2V	1.2V
2	0.7V	0.9V
3	3.4V	1.7V
4	11.4V	11.4V
5	0V	0V
6	3.4V	1.7V
7	0.7V	0.9V
8	1.2V	1.2V

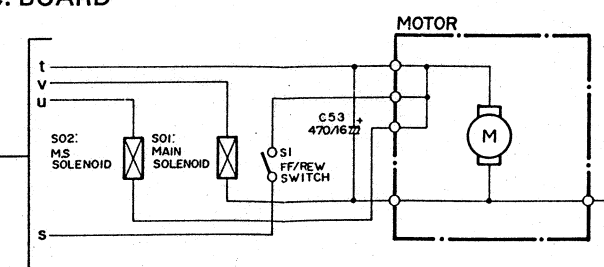
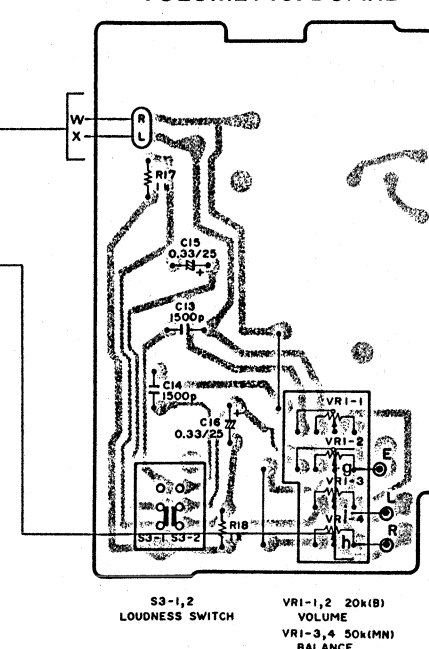
LED P.C. BOARD B



## SWITCH P.C. BOARD



## VOLUME P.C. BOARD



**Fig. 13**

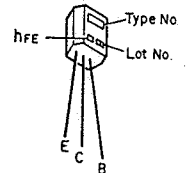
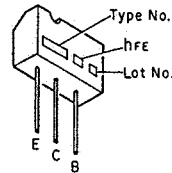
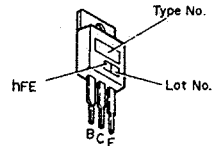
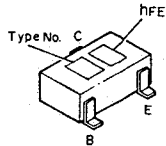
• IC's and Transistors

2SD601  
2SC2812  
2SC2712  
2SB709  
2SA1179  
2SA1162

2SD613

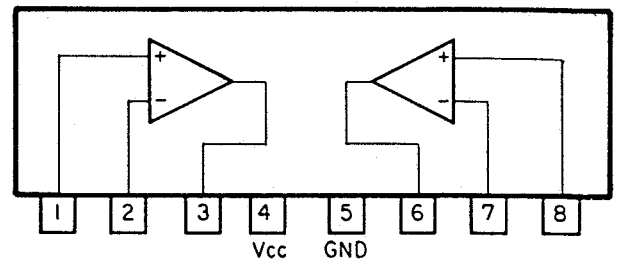
2SC2021LN

2SC2458

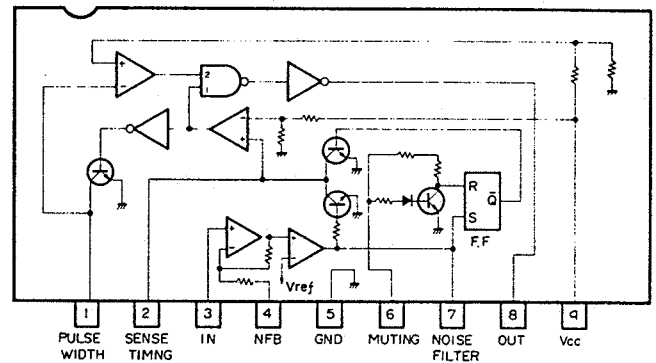


Part No.	Indication (Type No., hFE)
2SC2812-L4	L4
2SC2812-L5	L5
2SC2812-L6	L6
2SC2812-L7	L7
2SC2712-LG	LG
2SC2712-LL	LL
2SC2712-LO	LO
2SC2712-LY	LY
2SD601-YO	YO
2SD601-YP	YP
2SD601-YQ	YQ
2SD601-YR	YR
2SD601-YS	YS
2SA1162-SG	SG
2SA1162-SY	SY
2SB709-AP	AP
2SB709-AQ	AQ
2SB709-AR	AR
2SB709-AS	AS
2SA1179-M5	M5
2SA1179-M6	M6
2SA1179-M7	M7

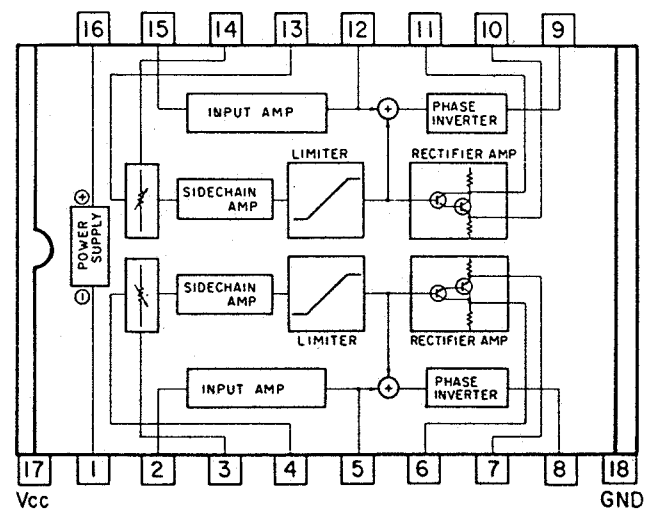
MB3106MF



BA338



HA11226





# 7. EXPLODED VIEW (KP-212G)

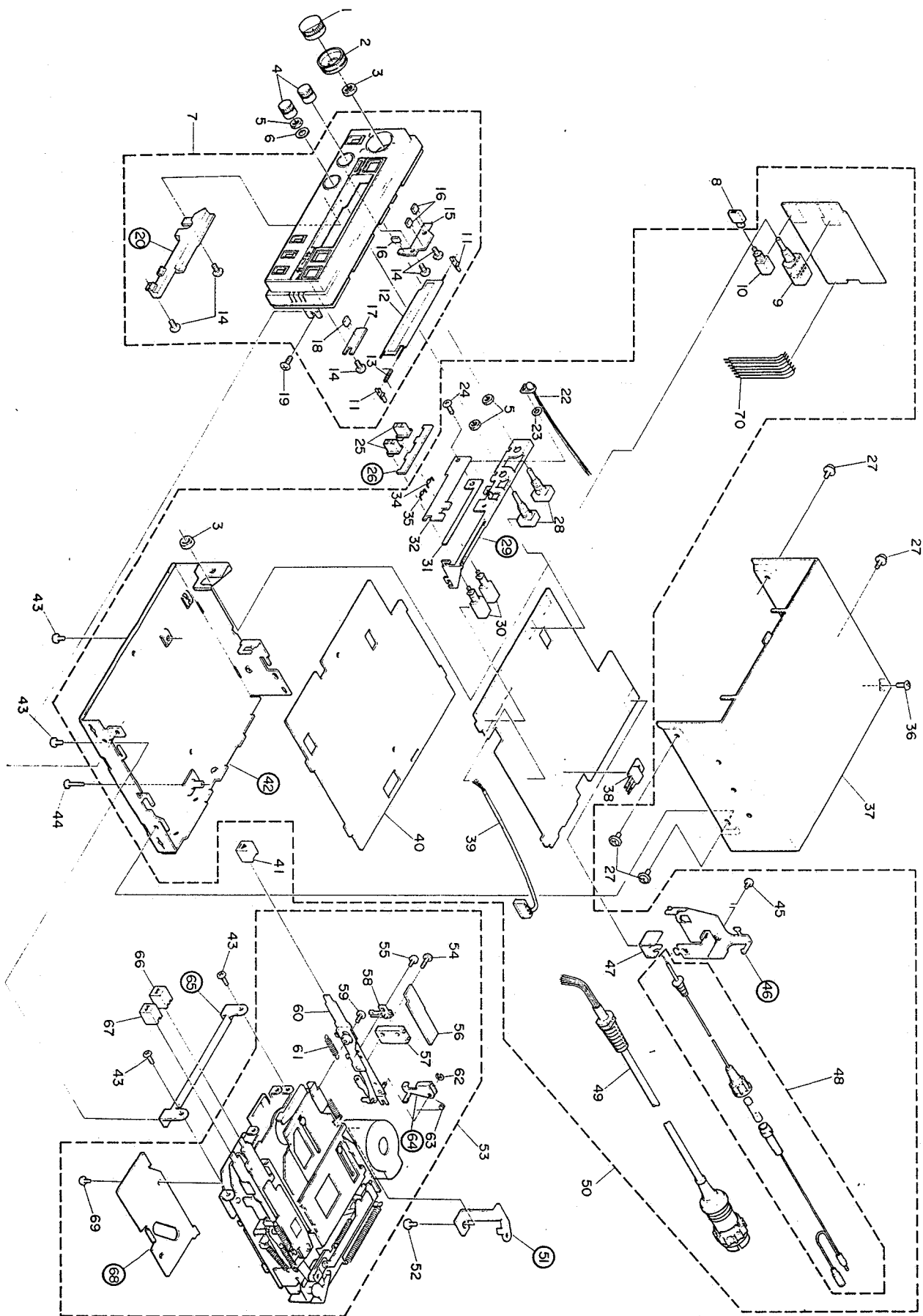


Fig. 14

# Parts List (KP-212G)

## NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1.	CAA-393	Knob (VOLUME)		44.	BMZ26P120FMC	Screw
★	2.	CAA-394	Knob (BALANCE)		45.	BMZ30P040FMC	Screw
★	3.	CBA-067	Nut (M7)		46.		Holder
	4.	CAA-344	Knob (BASS, TREBLE)		47.	CCL-115	Feed through Capacitor
	5.	CBA-066	Nut (M6)		48.	CDE-879	Cord
	6.	CBF-091	Washer (M6)		49.	CDE-880	Cord
	7.	CXC-784	Grille Assy		50.	CWK-299	Amp Assy
★	8.	CAC-351	Button (LOUDNESS)		51.		Bracket
★ ★	9.	CCS-272	Volume, 20kΩ(B), 50kΩ(MN) (VOLUME, BALANCE)		52.	BMZ26P030FMC	Screw
★ ★	10.	CSG-130	Switch (LOUDNESS)		53.	CXC-753	Cassette Mechanism Assy
	11.	CNF-207	Holder		54.	CBA-106	Scrw
	12.	CAT-140	Door		55.	BMZ20P040FMC	Screw
	13.	CBH-656	Spring		56.	CNL-274	P.C. Board
	14.	BNZ20P050FMC	Screw	★ ★	57.	CSF-015	Switch
	15.	CNL-262	P.C. Board	★ ★	58.	CSN-071	Switch
★	16.	BG5724K	LED		59.	BMZ23P090FMC	Screw
	17.	CNL-261	P.C. Board		60.	CXC-744	Bracket
★	18.	PG5532TX	LED		61.	CBH-650	Spring
	19.	BMF30P050FMC	Screw		62.	YE15FUC	Washer
	20.		Lens		63.	CBH-680	Spring
	21.	VACANT			64.		Arm
	22.	CEL-121	Lamp, 14V 40mA		65.		Bracket
	23.	HBF-139	Washer	★	66.	CAC-530	Button (REW)
	24.	BMZ26P050FMC	Screw	★	67.	CAC-529	Button (FF)
★	25.	CAA-527	Button (70μs/METAL, M.S)		68.		Cover
	26.		Cover		69.	BMZ23P030FMC	Screw
	27.	BMN30P050FZK	Screw		70.	CDE-982	Connector
★ ★	28.	CCS-276	Volume, 20kΩ(A) (BASS, TREBLE)				
	29.		Holder				
★ ★	30.	CSG-165	Switch (70μs/METAL, M.S)				
	31.		Insulator				
	32.	CNL-264	P.C. Board				
	33.	VACANT					
★	34.	PG2222SY-B1	LED				
★	35.	PR2222S-B1	LED				
	36.	CBA-110	Screw				
	37.	CNB-706	Case				
★ ★	38.	2SD613	Transistor				
	39.	CDE-900	Connector				
	40.	CNM-692	Insulator				
★	41.	CAC-528	Button (EJECT)				
	42.		Chassis				
	43.	BMZ26P040FMC	Screw				

## 8. EXPLODED VIEW (KP-313G)

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1.	CAA-393	Knob (VOLUME)		39.	BMN30P050FZK	Screw
★	2.	CAA-394	Knob (BALANCE)		40.	CBA-110	Screw
	3.	CBA-067	Nut (M7)		41.	CNB-706	Case
★	4.	CAA-344	Knob (BASS, TREBLE)	★ ★	42.	2SD613	Transistor
	5.	CBA-066	Nut (M6)		43.	CDF-249	Connector
	6.	CBF-091	Washer (M6)		44.	CNM-692	Insulator
	7.	CNF-207	Holder		45.		Chassis
	8.	CAT-141	Door		46.	BMZ26P040FMC	Screw
	9.	CBH-656	Spring		47.	BMZ26P120FMC	Screw
	10.	BNZ20P050FMC	Screw		48.	BMZ30P040FMC	Screw
	11.	CNL-262	P.C. Board		49.		Holder
★	12.	BG5724K	LED		50.	CDE-879	Cord
	13.	CNL-260	P.C. Board		51.	CCL-115	Feed through Capaci
★	14.	PG5532TX	LED		52.	CDE-880	Cord
	15.		Lens		53.	CWK-300	Amp Assy
	16.	BMF30P050FMC	Screw		54.		Bracket
	17.	CXC-785	Grille Assy		55.	CXC-771	Cassette Mechanism
★ ★	18.	CCS-272	Volume, 20k $\Omega$ (B), 50k $\Omega$ (MN) (VOLUME, BALANCE)		56.	BMZ26P030FMC	Screw
★ ★	19.	CSG-130	Switch (LOUDNESS)		57.	CNL-274	P.C. Board
	20.	CAC-351	Button (LOUDNESS)		58.	CBA-106	Screw
	21.	VACANT			59.	BMZ20P040FMC	Screw
	22.	CDF-296	Connector		60.	YE15FUC	Washer
	23.	CEL-121	Lamp, 14V 40mA		61.	CBH-680	Spring
	24.	HBF-139	Washer		62.		Arm
	25.	CCS-276	Volume, 20k $\Omega$ (A) (BASS, TREBLE)	★ ★	63.	CSF-015	Switch
	26.		Holder	★ ★	64.	CSN-071	Switch
★ ★	27.	CSG-165	Switch (70 $\mu$ s/METAL, M.S)		65.	BMZ23P090FMC	Screw
	28.		Insulator		66.	CXC-744	Bracket Unit
	29.	CNL-263	P.C. Board		67.	CBH-650	Spring
	30.	BMZ26P050FMC	Screw		68.		Bracket
	31.		Cushion	★	69.	CAC-528	Button (EJECT)
★ ★	32.	CSG-176	Switch (PROGRAM)	★	70.	CAC-530	Button
	33.		Holder	★	71.	CAC-529	Button
	34.	CAC-531	Button (PROGRAM)		72.		Bracket
★	35.	CAC-527	Button (70 $\mu$ s/METAL, M.S)				
★	36.	PG2222SY-B1	LED				
★	37.	PR2222S-B1	LED				
	38.		Cover				

## 9. ELECTRICAL PARTS LIST

### NOTE:

A

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56 × 10 <sup>1</sup>	561	.....	RD1/4PS	561J
47kΩ	47 × 10 <sup>3</sup>	473	.....	RD1/4PS	473J
0.5Ω	0R5		.....	RN2H	0R5K
1Ω	010		.....	RS1P	010K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).  
5.62kΩ 562 × 10<sup>1</sup> ..... RN1/4SR 5621F

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.

★ ★: GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

B

- Parts whose parts numbers are omitted are subject to being not supplied.

### Volume P.C. Board (KP-313G)

#### MISCELLANEOUS

Mark	Part No.	Symbol & Description
★ ★	2SC2021LN or 2SC2458	Q17
★	1S2076 or US1040 or DS442	D5
★ ★	CCS-272	VR1 Volume, 20kΩ(B), 50kΩ(MN) (VOLUME, BALANCE)
★ ★	CSG-130	S3 Switch (LOUDNESS)

C

#### RESISTORS

Mark	Part No.	Symbol & Description
	RD1/4VM□□□J	R17, R18, R75, R77 — R80

#### CAPACITORS

Mark	Part No.	Symbol & Description
	CQMA152J50	C13, C14
	CSYAR33M25SAN	C15, C16
	CEA100M16NP	C51
	CEA471M16L	C54
	CCH-065	C55 22μF/16V

D

### Volume P.C. Board (KP-212G)

Mark	Part No.	Symbol & Description
★ ★	CSG-130	S3 Switch (LOUDNESS)
★ ★	CCS-272	VR1 Volume, 20kΩ(B), 50kΩ(MN) (VOLUME, BALANCE)
	RD1/4VM□□□J	R17, R18
	CQMA152J50	C13, C14
	CSYAR33M25SAN	C15, C16

**CAPACITORS**

Mark	Part No.	Symbol & Description
	CKSYB681K50	C1, C2 Chip Capacitor
	CEANL3R3M25L	C3, C4
	CCH-066	C5, C6, C48 47 $\mu$ F/10V
	CQMA103J50	C7, C8
	CQMA153J50	C9, C10
	CCH-060	C11, C12, C31, C32, C33 (KP-212G), C34 — C36, C43, C45, C47 1 $\mu$ F/50V
	CCH-063	C17, C18, C21, C22, C56 (KP-313G) 10 $\mu$ F/16V
	CCH-064	C19, C20 22 $\mu$ F/10V
	CQMA562J50	C23, C24
	CQMA333J50	C25, C26
	CQMA683J50	C27, C28
	CSYAR33M25SAN	C29, C30
	CSZA010M25	C33 (KP-313G)
	CEA221M16L	C37, C50
	CEA470M16L	C38
	CEA471M16L	C39
	CKSYB392K50	C40 Chip Capacitor
	CKSYF223Z50	C41, C42 Chip Capacitor
	CCH-061	C44 2.2 $\mu$ F/50V
	CCH-062	C46 4.7 $\mu$ F/50V
	CSZAR15M35	C49
	CKSYF104Z25	C52 Chip Capacitor

**LED P.C. Board A (KP-212G)**

Mark	Part No.	Symbol & Description
★	PG5532TX	D1 LED

**LED P.C. Board A (KP-313G)**

Mark	Part No.	Symbol & Description
★	PG5532TX	D1, D2 LED

**LED P.C. Board B**

Mark	Part No.	Symbol & Description
★	BG5724K	D1 — D3 LED

**LED P.C. Board C**

Mark	Part No.	Symbol & Description
★	PR2222S-B1	D1 LED
★	PG2222SY-B1	D2 LED
★★	CSG-176	S1 (KP-313G) Switch (PROGRAM)

**Switch P.C. Board (KP-313G)**

Mark	Part No.	Symbol & Description
★★	CSN-071	S4 Switch (POWER)
★★	CSF-015	S5 Switch (POWER)
	RS1P□□□J	R69

**Switch P.C. Board (KP-212G)**

Mark	Part No.	Symbol & Description
★	DS135 or SM-1A-02	D3, D4
★★	CSN-071	S4 Switch (POWER)
★★	CSF-015	S5 Switch (POWER)
	RS1P□□□J	R75

**Head P.C. Board (KP-313G)**

Mark	Part No.	Symbol & Description
★★	CSH-070	S1 Switch (FWD/REV)
★★	CPB-066	HD1 Head

**Miscellaneous Parts List**

Mark	Part No.	Symbol & Description
★	DS135 or SM-1A-02	D6 (KP-313G), D7 (KP-313G)
	CCL-115	C1 Feed through Capacitor
	CEA471M16L	C53 (KP-212G)
★★	CSN-070	S1 Switch (FF/REW)
	CEL-121	IL1 Lamp, 14V 40mA
★★	CXM-103 or CXM-082	M (KP-212G) Motor
★★	CXM-106	M (KP-313G) Motor
★	CXP-033	S01 (KP-212G) Solenoid
★	CXP-035	S01 (KP-313G) Solenoid
★	CXP-032	S02 (KP-212G) Solenoid
★	CXP-034	S02 (KP-313G) Solenoid
★★	CPB-064 or CPB-065	HD1 (KP-212G) Head